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ABSTRACT

A music teacher specialist at an elementary school with a typical kindergarten music program implemented a 10-week practicum intervention designed to improve the auditory sequencing skills of kindergarten children through increased instruction in music. Test scores on screening measures indicated the need to improve the children's auditory memory and sequencing skills. A target class of 15 kindergartners was given instruction in music 5 days a week for 25 minutes a day. Materials in the music curriculum that required sequencing, memory retention, and auditory skills were used. A control group was taught the same skills as the target group, but only twice a week. Instruction involved singing, rhythm, listening, and movement and dance. It was expected that only the target group would significantly improve in auditory sequencing skills and positive attitudes toward listening. Pretest and posttest practicum evaluation data indicated that the intervention was successful. Targeted kindergartners significantly improved in auditory memory sequencing skills, while children in the control group did not. Data from a teacher checklist that was used in a survey of the perceived importance of sequencing skills in the kindergarten classroom did not clearly support the primary finding. A total of 40 references are cited. Related materials are appended. (RH)

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IMPROVING AUDITORY SEQUENCING SKILLS IN THE KINDERGARTEN AGE CHILD THROUGH THE INCREASED INSTRUCTION OF MUSIC

by

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A Practicum Report
submitted to the Faculty of the Center for the Advancement of Education of Nova University in partial fulfillment of the requirements for the degree of Master of Science in Administration and Supervision.

June, 1986

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Millicent Hume Brandt
Millicent Hume Brandt

TABLE OF CONTENTS

		PAGE
TITLE PAGE		1
AUTHORSHIP STATEMENT		ii
ABSTRACT AND INDEX		iii
TABLE OF CONTENTS		iv
OBSERVER'S VERIFICATION		v
CHAPTER		
I	PURPOSE	1
II	RESEARCH	7
III	METHOD	16
IV	RESULTS	30
V	RECOMMENDATIONS	40
REFERENCE LIST		43
BIBLIOGRAPHY		45
APPENDICES		
APPENDIX A:	LETTER OF ENDORSEMENT	47
APPENDIX B:	CLASSROOM TEACHER CHECKLIST	48
APPENDIX C:	RESPONSE SHEET - G-F-W, "AUDITORY SEQUENCING TEST"	52
APPENDIX D:	INSTRUCTIONAL OBJECTIVES CHECKLIST	53
APPENDIX E:	MATERIALS LISTS	55
APPENDIX F:	VISUAL SEQUENCE ACTIVITY SHEETS	59
APPENDIX G:	PRE-/POSTTEST DATA	65

Improving Auditory Sequencing Skills in the Kindergarten Age Child Through the Increased Instruction of Music

Purpose

Music, as an integral part of the elementary school curriculum, makes an important contribution to the learning process because children find an opportunity to consolidate physical, emotional, and intellectual responses to structured stimuli in a non-threatening educational setting. The writer works with kindergarten children on a regular basis and believes that auditory memory and sequencing skills taught in the music class not only enhance those same skills in the classroom, but finely hone them. If skill competence can transfer between learning settings, then the writer hypothesizes that the increased frequency of music instruction will significantly impact like skills in the academic setting.

Children are, by law, required to enter school at the chronological age of six. Although old enough for school by birthdate, a significant proportion of these children do not function at the developmental age of six years. Learning is more difficult for them. The

attention span of an average six year old is typically short. Since concepts need to be re-taught many times, learning new skills can be especially difficult for the less mature. Frustrations between parents, children and teachers often develop when the required skills are not learned and progress seems slow. Nevertheless, kindergarten children are expected to master basic motor, visual, auditory, and language skills at the pace specified in the county objectives.

In most Florida public schools, music education is taught by a music teacher specialist. The time per week for the instruction of music is not specifically designated by state law. The writer's county, in coastal Central Florida, however, does specify in its Comprehensive Educational Plan for 1985-86 that "82% of all students will have the opportunity to participate in art, music, and drama activities." (p.21) Thus, there is a music specialist in each elementary school.

A survey of school schedules indicates that in seventeen responding schools of this county the music teacher sees grades kindergarten through sixth, while in the remaining eight schools music instruction is provided only in grades one through six. The number of times per week that a music specialist sees each

kindergarten class for instruction is typically two times per week, and ranges from five per week in one school to a minimum of none in eight others.

The writer is employed as a music teacher specialist at an elementary school with a typical kindergarten music program. The student population of this school is approximately 485 students. 95% of the student body is white, and 5% is black bused in from low income housing. The school is located in an upper middle class residential community. The majority of parents in the immediate beachside neighborhoods are employed in aerospace or computer industries. These parents are successful professional people and seem as ambitious for their children's success as they are for their own. The children who are bused from the mainland are from homes with often only a single parent. These parents, too, seem anxious for a good education for their children. A majority of all parents is involved in and actively supports educational programs they find acceptable.

The subject school is a merit school. It was awarded this status through county participation in the state-funded Merit School Project of 1984-85. The award was presented on the basis of test scores

achieved on the Comprehensive Test of Basic Skills, and further by raising the scores in both social studies and science areas. It was the only elementary school in the county given the award of merit purely on the basis of test scores. The emphasis clearly is on academic achievement.

The Yellow Brick Road is administered to all students entering kindergarten. The series of four batteries and twenty four tests is intended to be a screening to detect weaknesses in motor, visual, auditory, and language development. Of sixty five children tested during the Fall, 1985 screening, 28% of the children missed half or more of the six items on the Auditory Sequence Test, and 55% missed a third or more of the six items.

After consultation with the curriculum co-ordinator, it was determined that a program should be designed to improve the children's auditory memory and sequencing skills (see Appendix A). This decision was determined because the auditory skills of following oral directions and placing information in sequence are basic to every learning situation. The skill level achievements are recorded on the county adopted kindergarten report card.

The writer works with all the students from kindergarten through grade six. The goal of music instruction in this public school is to enrich the basic education of children by providing opportunities to develop their music skills, intellectual skills, and creative talents through group activities, selected performances, and individual study. Because of its wide range of appeal, music education is particularly well adapted to meeting the developmental needs of children. It uniquely provides opportunities for social, intellectual, emotional, aesthetic and physical growth in a manner consistent with the objectives of the public school movement in America.

On October 18, 1985, an in-service was held for the elementary music teachers of the writer's county. Dr. Mary Palmer of the University of Central Florida was the instructor. She challenged the participants to demonstrate that music instruction in the public schools is not just a "fun" activity, but also an integral part of the learning process. She stated that no current statistics prove that the instruction of music on a daily basis by the music specialist does in fact improve the skills in the regular classroom, even though the same skills of language, memory

development, math, and creativity are integral parts of music instruction. The challenge by Dr. Palmer was the catalyst for the planning of this document.

Over a ten week period, the writer expected a target class of kindergarten children to show a statistically significant gain (.05) level on their auditory memory sequencing skills as compared to the scores made by the control group. Along with this success, the target group would appear more positive in their attitudes toward school and learning, as measured by comparison of target and control teacher checklists. The writer expected the classroom teacher of the target group to record fewer observations of frustration exhibited by the children in accomplishing sequencing activities (see Appendix B).

The "Auditory Memory Test 3-Memory for Sequencing" of the Goldman-Fristoe-Woodstock Auditory Skills Test Battery, hereinafter referred to as G-F-W, "Auditory Sequencing Test," was administered as pre- and posttests to both the target and control groups. The test items correspond to specific items on the county report card. Improvement on the G-F-W, "Auditory Sequencing Test," was measured as the difference between

sequence skill test scores administered before and after the implementation of the practicum.

The target group was taught music instruction five days a week for twenty five minutes each day. The writer used materials in the music curriculum that required sequencing, memory retention, and auditory skills. The control group was taught the same skills, but only twice a week at times set by the current established schedule. Pre- and posttest scores of both groups were compared. The writer expected only the target group to significantly improve on the G-F-W, "Auditory Sequencing Test." As evidenced by teacher observation, the writer also expected the target group to demonstrate more positive attitudes toward listening. The writer felt that the teaching of music five days a week would be effectively demonstrated to be a positive way to enhance the skills taught in the classroom.

Research

Tradition tells us that every child has needs that the elementary school attempts to satisfy. They include needs for acceptance and security with adults and peers,

for belonging and achieving happiness, and for a mastery of significant (esteemed) skills. The role the teacher plays in the needs satisfaction process is critical, especially in the mastery of skills. A simple skill, well learned, can be a source of great pride and can permit the kindergarten child to develop independence and confidence in his own ability. "For most children, both their attitude toward school and involvement in learning experience are highest in kindergarten."(Nixon and Nixon, 1970, p. 166)

Auditory perceptual skills are important for at least two reasons in the kindergarten aged child. First, they enable the child to receive and recall oral communication effectively, and second, they make it possible for the child to be aware of the individual sounds that will be represented by letters when he starts to read and spell. "If the habit of attention is not acquired early, the need to listen and understand what is presented may become so delayed it will become very difficult to overcome lost ground. There is evidence today that sequential listening has long been neglected." (Holland, 1974, p. 89)

One alternative solution for improving sequencing skills in the kindergarten child might be found in

providing for the student's unique learning style. Dunn (1983) suggests that diagnosing the child's emotional, sociological, physical and psychological environment will identify favorable stimuli for learning. In Arlington County Public Schools, Virginia, children are tested in kindergarten through third grade on skill areas of visual discrimination and auditory memory. A folder on each child and a manual, titled Diagnostic Strategies in Reading for Primary Children With Special Needs (London and Sigmond, 1975), are provided for the classroom teacher to use with those children who exhibit difficulties. This and similar approaches, however, are very time consuming and costly in diagnosis and implementation. Hence, providing for uniquely diagnosed learning styles as a research technique will not be effective for this practicum.

Another alternative solution to improving sequencing skills might be to selectively purchase new materials from the array of available early childhood curricular supplements. The teacher could rely on packaged information that comes with the materials, but supportive information is often not provided in the basic kits. The high cost of direct and supportive materials would not be appropriate in dealing with the problem addressed

by this practicum.

A third alternative solution to improving sequencing skills might be through individual training and remediation. Since the attention span of children in kindergarten is short and because children come to school at various stages of development, listening habits are typically undeveloped. In many cases, there will be children with needs for individual training. Classroom aides and parent volunteers may satisfactorily work with these children individually in prescribed ways to improve identified problems. .To the writer's knowledge, however, very few schools in the writer's county have kindergarten aides or enough parent volunteers to effectively implement such a program. This approach, therefore, is not a practical solution to the problem addressed by the practicum.

Children enjoy music! The immediate satisfaction, pleasure and learning which children derive from a wide variety of musical experiences are sufficient reasons to consider music as a vital and integral aspect of the total school curriculum and thus an appropriate avenue of investigation into memory sequencing skills. A well rounded music program for kindergarten includes various types of creative activities: listening, singing,

body movement and instrument playing.

Children will grow in their abilities to listen with discrimination in the same way that they improve in other skills -- through consistent guided practice. A child learns to listen through a gradual building of awareness to and an awakening of interests in musical sounds. Before a child can recreate music for his own purpose -- to sing, to move, to play an instrument -- he must be a good listener. Bergethon and Boardman (1979) state: "If one function of education is to acquaint individuals with their environment, then surely music must be included, for it is an integral part of that environment. From the most primitive to the most sophisticated of cultures, music has been central to every ritual: every significant event in man's personal life has its accompanying musical expression." (p.3)

Kindergarten children possess the potential for musical response and they enjoy the security of repetitive activity. The music classroom can offer a solution to resolving the problem of improving the academic classroom skills by providing a variety of repetitive activities. A study by Harriet R. Reeves, "Building Basic Skills With Music" (Music Educators Journal, 1978, pp. 74-79), stated that music teachers increasingly

are being asked to join forces with their fellow teachers to devise interdisciplinary approaches to learning. In the state of Arizona, the Department of Education has produced a teaching guide titled Teaching Strategies from the Arizona Comprehensive/Integrated Arts Program, 1978, designed to demonstrate the interrelatedness of all learning. For example, an activity which encompasses the fields of music and science consists of identifying musical instruments by their sounds, or of duplicating their sound patterns. The purpose of the activity is to develop auditory discrimination, memory, and sequencing skills.

The writer contacted two neighboring schools in the county to discover if other schools had tried to match memory and sequencing skills taught in the music classroom with those taught in the regular classroom. Although other schools indicated that there was a need to improve auditory memory and sequencing skills, the use of music instruction by the music teacher specialist had not been implemented.

The theory of learning transfer is the application of knowledges and skills learned in one setting applied to problems in different settings. Learning is an integrated process, not just the acquisition of separate

sets of skills. The many aspects of the school curriculum can and should be interwoven to offer the child a varied background of experiences and knowlege upon which to draw. As an integral part of human growth and development, music in the curriculum is an area where children can participate, contribute and, most importantly, succeed.

A study conducted by Joya Turnipseed in 1974 examined the effects on seventy-five five year olds to determine if classical music effected their auditory discrimination skills. The development of auditory discrimination skills, considered a leading factor in reading readiness, was one of the main objectives of the music program. The children were divided into two groups -- control and experimental. The control group was exposed to classical music for twenty minutes twice a week and the experimental group heard the music from twenty minutes up to fifty minutes by the end of the school year. After a schoolyear, the students in both groups were tested using the Metropolitan Achievement Test, Slosson Intelligence Tests, and Wepman's Auditory Discrimination Test. The results showed better developed auditory skills and a greater ability to handle instructional tasks by the students in the experimental group,

than those in the control group.

Two European approaches to music education that are being adopted increasingly by American educators are those of Zoltán Kodály and Carl Orff. Developed in Hungary, Kodály's system is primarily a vocal approach to developing musicianship. He considered the voice to be the most natural and personal way of expressing oneself in music. He instituted a program for music education that begins at the nursery school level and continues through the secondary school. "The Kodály method, which he called 'sol-fa-teaching', is based on the acquisition of a vocabulary of rhythmic and melodic patterns presented in a progressive order of difficulty through singing, rhythmic movement, ear-training and dictation, memorizing, and writing music." (Bergethon and Boardman, 1979, p.228) Kodály's system of learning rhythmic and vocal patterns in music would offer a solution to improving auditory memory sequencing skills through music.

German composer-educator Carl Orff, another music educator of Europe, is greatly influencing American music education with an approach stressing creative music activities. It is a union of the basic elements of music, movement, dance, and speech. "It is music

that one makes oneself, in which one takes part not as a listener but as a participant. It is unsophisticated, employs no big forms and no big architectual structures, and it uses small sequence forms, ostinato, and rondo. Elemental music is near the earth, natural, physical, within the range of eveyone to learn it, and suitable for the child." (Orff, 1966, p. 390)

The essence of Orff's instructional plan is to help children build a vocabulary of rhythmic, melodic, and harmonic patterns that they can use in creating their own music. This they acquire through a progressive sequence of performance activities. His book Orff-Schulwerk:Musik Für Kinder has had a noticeable influence on current methods of teaching music in American schools. In Polk County Public Schools, Florida, the use of the Orff approach to music education is being used to develop language skills in handicapped children. Also, in the writer's county the newly adopted county music series contains lessons in both Kodály and Orff. The inclusion of these methods could offer viable support to increasing memory and sequencing skills in the kindergarten age child.

Through the increased instruction of music to the kindergarten age child, basic skills of learning should

be reinforced. Music can be built into children's developing lives as an expanding resource. Laura Zirbes (1959) in Spurs to Creative Teaching states: "Music is such a rich resource for child development, and is so challenging to the creative urge, that it can suffuse the whole curriculum with enriching values when it is not kept in isolation as a separate domain." (p. 259) The increased frequency of music instruction to the kindergarten aged child appears to be a practical, cost effective method of increasing auditory skills of sequential memory. This has been the challenge of this study.

Method

The intent of this practicum was to apply an increased frequency of general music instruction given to a target group of kindergarten children in order to measure its impact on auditory memory and sequencing skills. Another group (control) was also to receive general music instruction, but on a less frequent basis. Both groups were given the "Auditory Memory Test 3- Memory for Sequence" of the Goldman-Fristoe-Woodstock

Auditory Skills Test Battery, as the pre- and posttests. The purpose of this was to determine if the teaching of general music in a public school kindergarten by the music teacher specialist had a statistically significant (.05) impact on the development of auditory memory sequencing skills of kindergarten children.

The writer theorized that there would be a transfer of learning with the application of knowledges and skills learned in one setting applied measurably to problems in a different setting. The writer, as music teacher specialist, would capitalize on the non-threatening environment provided when children sing, play instruments, listen, and dance -- multisensory activities that, it is hypothesized, facilitate auditory memory and sequencing skills. Through the transfer of learning, such activities as identifying the tones in a pattern, memorizing the words of a song, and playing an instrument in rhythm, would contribute to the development of auditory sequencing.

Both the target and control groups were pretested by the writer during the first week of practicum implementation. During the week of March 10-14, 1986, the G-F-W, "Auditory Sequencing Test" was administered

to two kindergarten classes by the writer. The classes were identified as the target and control groups by a chance flip of a coin. The target group of fifteen students (originally sixteen with one transferring out in the middle of practicum implementation) scored slightly, but not significantly ($\alpha > .50$), lower on the pretest than did the control group of nineteen students.

The pretest was administered to each child individually. The student was shown at first a page with only two pictures printed on it. The test administrator read a sequence of two identifying words, in an order different from the pictured page. The student was instructed to repeat and point to the pictures exactly in the stated order. The fourteen test pages gradually increased the number of pictures in each sequence until there were a total of eight pictures in a single sequence. The scoring of the test was by the number of correctly repeated sequences, with an extra point given each to the first and last item if correctly identified (see Appendix C).

The writer met with the kindergarten classroom teachers and determined a time when each class could meet. It was decided that the target group would receive music instruction five days a week for

twenty-five minutes. The control group would receive instruction two days a week for twenty-five minutes. The classes met in the music room. Both groups began music instruction for practicum implementation on March 17, 1986.

Music instruction with an emphasis on sequencing and auditory memory skills was given to both the target and control groups. Interim monitoring of the progress of both groups was completed through observation by the music teacher specialist and through weekly testing by an instructional objectives checklist of sequencing skills (see Appendix D). An evaluation of the activities was determined each week after the checklist was completed and instructional adjustments were made as needed. These changes were, more often than not, simple substitutions of one song or activity for another.

The materials used were carefully selected from existing county adopted materials and equipment and other available resource books. Adaptations of many materials, such as songs and rhythm activities, were developed by the writer. A complete list of all materials used is found in Appendix E.

A classroom teacher checklist to survey the perceived importance of sequencing skills in the kindergarten classroom was provided to each kindergarten teacher during the pre-and posttest weeks.

The methods of increasing the sequencing and auditory memory skills of the target and control groups were divided into four main catagories: singing experiences, rhythm experiences, listening experiences, movement and dance experiences. The lesson plans for each week often included two or three of each of these experiences, but for purposes of clarity the writer will address each catagory separately and describe the associated activities. A review of previously learned material was included in each lesson with the intention of a spiraling scope of sequence experiences.

Singing Experiences

Every lesson began and ended with a song. When the teaching implementation began, March 17, 1986, the Easter season was approaching, and thus a seasonal rabbit song was taught entitled, "Little Cabin in the Woods" (Boardman and Landis,. 1966, p. 23). With each phrase of the song, a descriptive action was acted out. After learning the song and the appropriate

actions, the students were instructed to sing the song. However, they were instructed to leave out progressively more words with each verse, using only the appropriate motions. This method was continued, omitting one more phrase each time, until all eight motions were completed. This was a cumulative song "formed by or resulting from accumulation of the addition of successive parts or elements" (The Random House Dictionary of the English Language, 1969, p. 325-326). Another cumulative song was titled "Head, Shoulders, Knees, and Toes," an old camp song. With each succeeding verse, an additional phrase was not sung, but the appropriate motion was substituted. The intention of teaching these songs to the target and control groups was to increase the student's memory of sequence through song and movement. Other songs of this style were "If You're Happy and You Know It" (Marsh, Rinehart, Savage, 1980, p. 47), "I Bought Me a Cat" (Landeck, Crook, Youngberg, 1964, p. 36), "Old MacDonald" (Aubin, Crook, Hayden, Walker, 1985, p. 13), and "She'll Be Coming Round the Mountain" (Miller and Zajan, 1955, p. 39). The students never tired of these songs and requested to sing the familiar ones over and over. The target group, with the increased amount of time for instruction,

learned the songs thoroughly. They eagerly anticipated "what comes next" and were anxious to share the answer. The concept of remembering a sequence was clearly being established. The control group learned the same songs, but did not have the same level of accuracy in remembering all the sequences. For example, the target group was able to remember up to seven different motions to the song, "If You're Happy and You Know It" (clap, stamp, nod head, snap fingers, pound fists, hop, sit) in order by the third week, while the control group mastered six motions after eight weeks. Since singing is so basic to a kindergarten child, it was the natural way to incorporate music into the development of sequencing skills. All children participated and eventually all succeeded to some recognizable (praise-worthy) degree.

Most singing activities were entirely orally taught. Two songs, however, used visual aides: "Eency, Weency Spider" and "Little Jack Horner". Visually reinforced activities were taken from The Music Book (Andress and Boardman, 1985, p. 119, p. 14). Each child was provided with a work sheet, crayons, and sissors. These activities combined the visual,

aural,. and auditory memory sequence skills (see Appendix F).

Rhythm Experiences

Rhythmic activities were a part of every lesson. Initially, simple rhythmic patterns of four beats were clapped by the teacher and the students echoed what they heard. At first, these activities were done by the entire group together. When the writer felt that the students were comfortable with this activity, individual response was requested. Soon, these rhythms were notated on cards using the notation method of Kadály (Lewis, 1977, p.9). The order of these cards was changed frequently and the students clapped each new sequence in time to a steady drum beat.

The object of the rhythm charts and echo clapping was to remember patterns and to repeat them in order. The addition of the charts added the visual to the aural stimulus. Each week during the implementation period, these rhythm patterns and echo clappings were continued and checked for accuracy on the individual student's weekly checklist. Examples of the rhythm charts are shown in Appendix F.

In another activity, the teacher would clap a

rhythmic pattern and the students had to represent the pattern of long and short timing with toothpicks. Patterns were initially of four beats, but were extended to eight beats (see Appendix F). Teacher observation was an ever present factor in monitoring these rhythm activities. Patterns were only extended when the writer felt the prior level of expectation had been achieved.

In the third week of implementation, rhythm instruments were introduced with the song, "I Bought Me a Cat" (Landeck, Crook, Youngberg, 1964, p. 36). This song is illustrated with bright colored animals in the kindergarten edition of Making Music Your Own. The students took turns pointing to the correct animals in the sequence as each animal was added during the singing of this cumulative song. Without the illustrations, the children did not easily remember the sequence. In order to facilitate retention, a variety of rhythm instruments was introduced (xylophone, wood block, sand paper blocks, maracas, triangle, sticks, drum, and tambourine). The students decided which instrument would be appropriate to each animal. With the addition of the instruments, the students had no trouble remembering the appropriate sequence of animal words. Since this

became a favorite activity of the students, the writer added the use of rhythm instruments to other cumulative songs. Both the target and control groups benefited from the addition of the rhythm instruments, as evidenced by the weekly checklists.

The use of rhythm instruments became a focal point in the echo clapping of both simple and complex rhythm patterns. The writer discovered a distinct difference in accuracy when she played an extended rhythm pattern on a wood block, rather than clapping it. The crispness of tone appeared to have greatly enhanced the students' ability to remember longer patterns. The teacher held a wood block and mallet and gave a wood block and mallet to a child. The target group, through increased practice at this activity, showed marked improvement. Some of the control group did improve with the addition of rhythm instruments. Other instruments, such as the triangle, drum, and rhythm sticks, were tried. With the teacher playing the pattern first, each individual child repeated what was heard. No other instrument produced as much accuracy of response as did the wood block and mallet.

Listening Experiences

To provide further experiences with sequencing skills and auditory memory, the writer introduced listening experiences. This section did not begin until April 28. It was designed to give these kindergarten children a beginning awareness of general melodic contour and the repetition of familiar patterns. The first pattern, ABA (melody A followed by melody B followed by melody A repeated), was demonstrated by singing the familiar song, "Twinkle, Twinkle Little Star". Also introduced was the song, "The Trees Bend" (Andress and Boardman, 1985, p. 56). An activity sheet was used with this song to visually illustrate the ABA form (see Appendix F).

To further illustrate melodic pattern, the writer cut out paper triangles, squares, and circles of various colors. One at a time, the children were asked to construct an ABA pattern using the colored shapes. Once this concept was established, the writer expanded the auditory memory experience to include a design in music called a rondo. A composition written in rondo form will have "one principal subject which is stated at least three times in the same key and to which

return is made after the introduction of each subordinate theme." (Random House Dictionary of the English Language, 1969, p. 1145). The composition chosen by the writer for this study was "The March of the Siamese Children" from The King and I by Richard Rogers (Beginning Music, American Book Company, 1980, Record Six). The composition with an ABACABA pattern was played for the children first for the purpose of listening. The writer cut out seven shapes: four for melody A, two for melody B, and one for melody C.

The seven shapes were given to seven children. They were asked to listen to the music as it was played again and to raise their shape up high when they heard their melody being played. This activity was not difficult for the children and they listened with anticipation for their melody. It was most enlightening for the writer when she walked into the cafeteria one day after this listening experience had occurred and found the kindergarten children busily lining up their trays in ABA and rondo patterns. The writer was convinced an awareness of pattern and sequence had occurred in this experience.

Another listening experience introduced was the call and the response method of telling a story. The teacher told the old camp story called, "I'm Going on a Bear Hunt". The pattern was that the teacher said a passage using appropriate hand motions or sound effects, and the students were to repeat exactly what was said and heard. The story lead up to the ultimate discovery of a bear and then all the passages and actions were repeated in reverse order until they were back at the first line of the story. If the writer made an error, the students were quick to correct the sequence. Each time the story was told, the writer changed it somewhat to maintain interest.

Movement and Dance Experiences

The final category of musical experience implemented to increase auditory memory sequencing skills was movement and dance. Finger plays are rhymes or poems recited with the addition of movements of the hands or fingers. These activities were enjoyed by the children and helped expand their auditory memory skills. Finger plays were incorporated each week of implementation. The use of hand jives was introduced during the week of April 7, 1986. A hand jive is a set pattern of hand

movements done to music or a steady beat. An example would be: clap, clap, snap, snap, pound, pound, clap, clap. The purpose of introducing this activity was to offer a varied method of teaching sequencing. It was believed by the writer that these multisensory activities would facilitate listening and memory skills. The writer set a four beat pattern at first, and after that had been firmly established, an eight beat pattern and finally a sixteen beat pattern. The weekly checklist showed on April 11, 1986, that the girls were able to learn this activity more readily than the boys in both the target and contol groups.

The introduction of dancing was not implemented until May 5, 1986. The kindergarten children had experienced dances, such as the Hokey Pokey, The Bunny Hop, and Looby Loo. All these dances were reviewed sometime during the subsequent week. These were circle dances done as a group with directions for specific movement given by the caller on a record. The dance, "Bow,Bow Belinda" (Do-Si-Do Records,. RCA) was a dance with the boys in one line and the girls facing them in another. The caller on the record gave the directions to bow, join right hands, join left hands, and do-si-do.

The students in both the control and target groups were able to learn this dance, but the target group was much more proficient. The sequence of actions was easily memorized by the students in the target group and all completed this task without teacher assistance.

All materials used in this practicum were selected, organized, and correlated by the writer from the vast array of established materials used in her classroom teaching. The exact selection of each particular song, rhythm pattern, listening experience, dance and movement activity was chosen for its unique quality in enhancing auditory memory sequencing skills. The activities described in this chapter are only examples of the many activities employed during the implementation of this practicum. The design of the method and materials used in this practicum were solely the responsibility of the writer.

Results

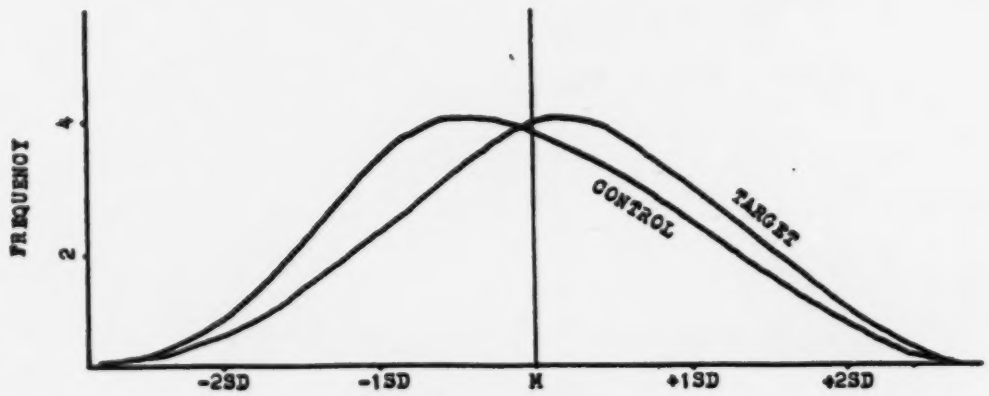
The practicum has had essentially two outcome objectives: 1) over a ten week period, the writer expected the target class of kindergarten children to show a statistically significant gain (.05) level

on their auditory memory sequencing skills as compared to scores made by the control group, and 2) the target group would appear more positive in their attitudes toward school and learning, as measured by comparison of target and control teacher checklists, which would have fewer recorded observations of frustration exhibited by the target group children in accomplishing sequencing activities.

The "Auditory Memory Test 3- Memory for Sequencing" of the Goldman-Fristoe-Woodstock Auditory Skills Test Battery, hereinafter referred to as G-F-W, "Auditory Sequencing Test," was administered by the writer as the pre- and posttests to both the control and target groups. The particular test is Test 3 of a ten-test battery of auditory skills and is one of three memory tests. The intent of the battery is to identify individuals who are deficient in auditory skills and to describe these deficiencies. The G-F-W, "Auditory Sequencing Test" consists of 84 items measuring short-term retention of the order of a set of elements in a recent event received through the auditory mode. Internal consistency reliability coefficient is reported in the G-F-W Technical Manual (Woodcock, 1976, p. 23) at .95 for the normal sample (n=130) for ages 3 to 8

years. Content validity is based on a presentation to the subject of tasks that require skills essentially the same as those skills required for tasks in real life. Construct validity is reported as an intercorrelation coefficient of the G-F-W, "Auditory Sequencing Test" with itself of .97 (Woodcock, 1976, p. 26) and a correlation with age of .54 (Woodcock, 1976, p. 29) for the normal sample for ages 3 to 8. The standard error of measure for a middle score of 42 is reported as 3.7 (Woodcock, 1976, p. 25).

The pretest was individually administered in careful compliance with the test manual between March 10-14, 1986. The two kindergarten classes had been designated as control and target by a chance flip of a coin prior to any testing. An analysis of covariance



PRETEST DISTRIBUTION

ANALYSIS OF COVARIANCE

PRETESTS	CONTROL (n=19)	TARGET (n=15)
Sum of Scores	694	492
Mean Score	36.53	32.80
Std. Deviation	9.54	7.30
Std. Error of Mean	2.19	1.88
Range	35	27

t Distribution = 1.25 $\alpha > .20$ $df = 32$

of pretest scores yielded an obtained t distribution of 1.25 . The level of significance ($\alpha > .20$; df = 32) suggests that the prestest mean scores ($\bar{X}_c = 36.5$; $\bar{X}_t = 32.8$) of the two groups were not statistically different.

The posttests were administered by the writer to the control and target groups between May 19 - 23, 1986. For pretest/posttest analysis, a null hypothesis procedure was adopted based upon a level of significance at .05 . The three possibilities of mean variance are:

H_0: $\bar{X} = \bar{Y}$ or $\bar{D} = \bar{Y} - \bar{X} = 0.0$

H_c & H_t: $\bar{X} > \bar{Y}$ or $\bar{D} < 0.0$

$H_{c'}$ & $H_{t'}$: $\bar{X} < \bar{Y}$ or $\bar{D} > 0.0$

where $\bar{X}$ is the pretest mean, $\bar{Y}$ is the posttest mean, and $\bar{D}$ is the deviation mean.

The pretest and posttest scores were generated by the same control and target groups over a period of time during which experimental treatment was provided the

target group. This fact is supported by the pre/post Pearson Product-Moment correlation coefficient obtained ($r > +.20$) by both groups ($r_c = +.67$; $r_t = +.73$). Thus, a dependent measure, within-subjects comparison of variance was selected with the condition that change due necessarily to learning must have a confidence value equal to or greater than .95 ($\alpha = .05$). See Appendix G for raw data.

The control group experienced a pretest to posttest increases in mean score of 3.21 points, thus retaining hypothesis H_t, while eliminating hypothesis H_c from furher consideration. The obtained t distribution of variance was 1.85, resulting in a probability value greater than .05 on a two-tailed test of hypotheses. The element of chance, hypothesis H_0, therefore, must be retained as an explanation for the variance between pre-

CONTROL GROUP VARIANCE		Pretest		Posttest
Sum of Scores	ΣX	694	ΣY	755
Mean Score	$\bar{X}$	36.53	$\bar{Y}$	39.74
Mean Deviation	$\bar{x}$	7.56	$\bar{y}$	7.65
Variance	s_X^2	91.04	s_Y^2	81.09
Std. Deviation	s_X	9.54	s_Y	9.01
Std. Error of Mean	$SE_{\bar{X}}$	2.19	$SE_{\bar{Y}}$	2.07
Range	R_X	35	R_Y	32

Mean Difference	$\bar{D}$	= 3.21
Std. Deviation	s_D	= 7.58
Correlation Coeff.	r_{XY}	= .67
t Distribution	$\lvert t_{obt} \rvert$	= 1.85
Probability	$\alpha >$	.05 df = 18

and posttest scores achieved by the control group. Simply, the growth in scores experienced by the control group between March and May was not statistically significant.

The target group also experienced a pretest to posttest increase in mean score ($\overline{D}$ = 12.0), thereby retaining hypothesis $H_{T'}$, while eliminating H_T from further consideration. Unlike the control group, however, the obtained t distribution of variance was sufficiently great (7.28) to result in a probability value ($\alpha < .001$), which is less than the conditional .05 level of significance on a two-tailed test of hypotheses. The element of chance, represented by the null hypothesis (H_0), can be safely rejected as an explanation for the achieved test growth by the target group. Simply, the growth in scores of the target

TARGET GROUP VARIANCE		Pretest		Posttest
Sum of Scores	ΣX	492	ΣY	672
Mean Score	$\overline{X}$	32.80	$\overline{Y}$	44.80
Mean Deviation	$\overline{x}$	5.17	$\overline{y}$	7.15
Variance	s_T^2	53.31	s_T^2	87.31
Std. Deviation	s_T	7.30	s_T	9.34
Std. Error of Mean	SE_T	1.88	SE_T	2.41
Range	R_T	27	R_T	33

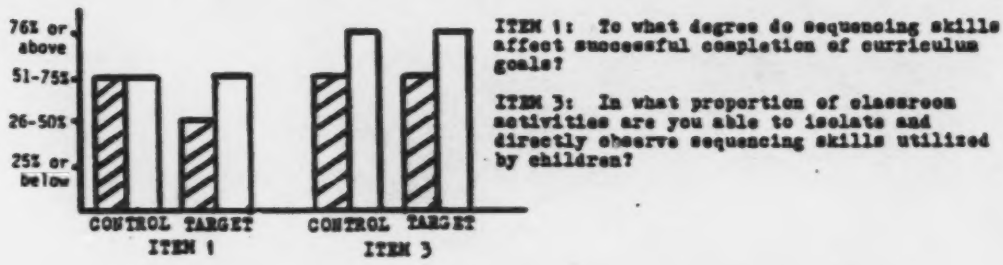
Mean Difference	$\overline{D}$	= 12.00
Std. Deviation	s_D	= 6.38
Correlation Coeff.	r_{TT}	= .73
t Distribution	$\lvert t_{obt} \rvert$	= 7.28
Probability	$\alpha <$	.001 df = 14

group between March and May was statistically significant, supporting the objective (H_a: $\overline{X} < \overline{Y}$) as the only viable hypothesis. The first outcome objective was achieved.

The second outcome objective was measured with a six item Classroom Teacher Checklist created by the writer. Each teacher of the control and target groups was given the Checklist to survey and measure the attitude toward and perceived importance of sequencing skills in the kindergarten classroom. The same Checklist was given during the first week of implementation, March 10-14, and again during the final week, May 19-24. The writer expected that the control group teacher might report a greater frequency of exhibitions of frustration in the completion of sequencing skill tasks than reported by the target group teacher. It was hypothesized by the writer that, through the increased instruction of music, the target group would exhibit less frustration in sequencing tasks and higher success. The complete responses to the pre- and posttest Checklists are in Appendix B.

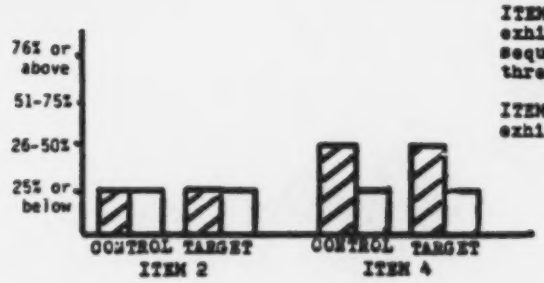
The survey contained six statements regarding each teacher's evaluation of the presence and importance of sequencing skills in the clasroom.

Items 1 and 3: Two baseline issues were directed specifically at the teachers' own appraisal of the importance and observability of sequencing skills. Since treatment did not directly include the classroom teacher, the writer expected little or no pre- to posttest change on these two items. If mild changes did take place, the desired direction would be increased target ratings.


76% or above
51-75%
26-50%
25% or below
CONTROL
TARGET
ITEM 1
CONTROL
TARGET
ITEM 3
ITEM 1: To what degree do sequencing skills affect successful completion of curriculum goals?
ITEM 3: In what proportion of classroom activities are you able to isolate and directly observe sequencing skills utilized by children?

In all but one case, the target and control teachers increased their pre- to post-evaluation by a single level. Though not projected, the changes on these baseline issues might be the result of a common research phenomenon where some change is caused by research association, rather than by the intended treatment process. Another cause of change, as commented by both teachers, is that sequencing skills become more important as classroom work becomes more difficult with less supervision. With greater independence, deficiencies become more apparent.

Item 2 and 4: Two items were directed at establishing an acknowledged link between sequencing skills and the performance of observable tasks. The anticipated results here were that, regardless of the pretest ratings assigned by the teachers, the target posttest ratings would approach or be at the "25% or below" level. As auditory sequencing skills of the target group improved, the writer anticipated a more strongly evidenced link between the auditory skills and performance of a classroom task and that with treatment there would be fewer exhibitions of sequencing difficulties by the target children.



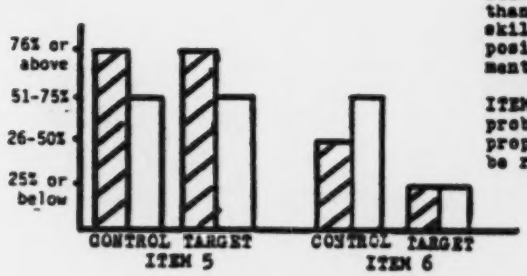
ITEM 2: How often would you expect a child, exhibiting moderate difficulties with sequencing skills, to be able to complete a three part direction?

ITEM 4: What percent of your students exhibit difficulty with sequencing skills?

Both the control and the target groups either already were or moved toward the desired posttest evaluation level. The Checklist results do not support the treatment process. Nevertheless, the target teacher commented that fewer children exhibited sequencing difficulties in the target kindergarten classroom because they became

more aware of expectations and as a direct result of "concentrated training" during the treatment program.

Items 5 and 6: Two items were directed at the perceived or observed link between sequencing difficulties with classroom attitudes and frustrations. The desired pre- to post-evaluation changes would be target increases on both items, indicating more positive attitudes toward classroom involvement with fewer exhibitions of frustration.



ITEM 5: Of those students exhibiting more than moderate difficulty with sequencing skills, what proportion displays an overall positive attitude toward classroom involvement?

ITEM 6: If sequencing skills were not a problem for any of your students, by what proportion might exhibitions of frustration be reduced in the classroom?

Only the control group teacher rated a positive change on one of these items. On Item 5, both groups decreased a single level, and on Item 6, the target group remained unchanged, while the control increased. The teacher responses to these two items do not support the treatment process.

Conclusion: The G-F-W, "Auditory Sequencing Test" provided very favorable outcomes in support of the effects

of the treatment procedure, while the teacher Checklist produced no clearly supportive data.

The fact that the target group experienced statistically significant ($\alpha < .001$) pre- to posttest mean score change on an established syandardized testing instrument, while the control group showed no similar change, is strong evidence that the treatment program had an impact. The increased frequency of general music instruction by the music teacher specialist significantly improved the auditory sequencing skills of the target group of kindergarten children.

Recommendations

The writer has recommended to her principal that an increased amount of instruction time for music be included in the kindergarten schedule. The results of the study have been provided to the principal. Since the enrollment of the writer's school is increasing, scheduling a full twenty five minutes per day to each kindergarten class might not be possible, but rather the ideal. A more feasible plan might be a fifteen minute period each day.

A sharing of ideas between the kindergarten class-

room teachers and the music teacher specialist will be suggested for pre-planning next school year. If it is not possible to schedule an increase of music instruction with the kindergarten classes, perhaps some of the methods and materials employed in this practicum can be implemented by the classroom teachers themselves. There should be short definite periods of time set aside which give children specific organized musical experiences everyday, to provide for cumulative growth. Through the "music lesson", children can gain new skills and finely hone others.

The music resource teacher for the county will be informed of the outcome of this project. If there is interest in implementing similar programs in other schools, the writer would be pleased to serve as a consultant.

A listing of the materials used will be shared with other music teachers of the county. Several classroom teachers in the writer's school have expressed an interest in the project and the practicum will be made available for their study.

The results of this study will be shared with Dr. Mary Palmer of the University of Central Florida,

who was the catalyst for this study.

The project was successful. Although many positive results have been described, hopefully there will be other intangible rewards that are not easily measured or presently known. Through the increased instruction of music, not only were auditory memory and sequencing skills improved in the target group, but hopefully an enriching experience in music was gained. Since music is so much a part of the child's daily life, the writer is convinced that music should extend throughout the entire school day, coordinating and enriching the other activities in the school program.

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APPENDIX A

Letter of Endorsement

Indialantic Elementary School

1050 North Palm Avenue
INDIALANTIC, FLORIDA 32903

NED M. STRAEHLA
Principal

MELINDA BRINSON
Curriculum Coordinator

The acquisition of effective listening skills is imperative to a child's development and achievement in all facets of learning. It is assumed by many teachers that listening is an ability acquired through a child's normal maturation. However, research indicates listening to be a learned skill and that it is essential to teach children to distinguish and interpret neutral responses and meaningful messages. Increased music instruction would be an excellent process to enhance auditory memory skills by focusing attention on specific responses and by increasing listening activity. Mrs. Brandt's practicum plan would be a dynamic method of impacting a child's ability to listen.

Sincerely,

Melinda Brinson

Melinda L. Brinson
Curriculum Coordinator

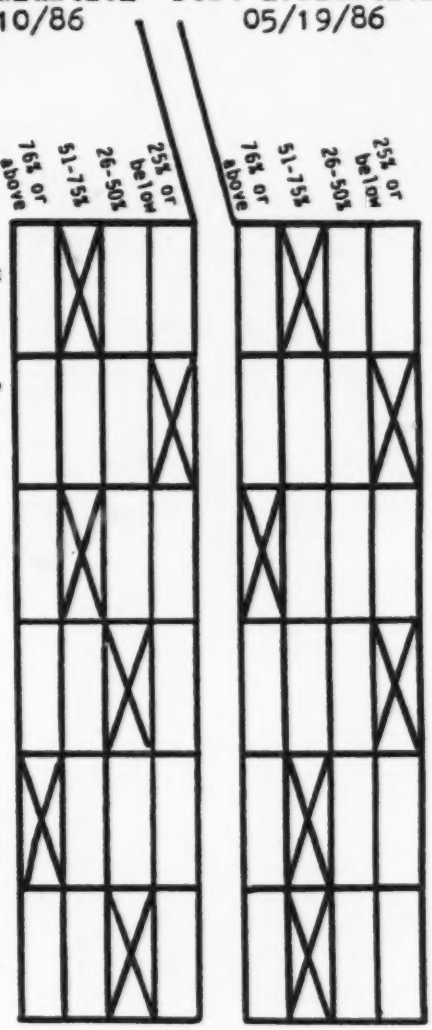
APPENDIX B

Classroom Teacher Checklist

Control Group Teacher

Pre-Evaluation 03/10/86

Post-Evaluation 05/19/86



ITEM 1: To what degree do sequencing skills affect successful completion of curriculum goals?

ITEM 2: How often would you expect a child, exhibiting moderate difficulties with sequencing skills, to be able to complete a three part direction?

ITEM 3: In what proportion of classroom activities are you able to isolate and directly observe sequencing skills utilized by children?

ITEM 4: What percent of your students exhibit difficulty with sequencing skills?

ITEM 5: Of those students exhibiting more than moderate difficulty with sequencing skills, what proportion displays an overall positive attitude toward classroom involvement?

ITEM 6: If sequencing skills were not a problem for any of your students, by what proportion might exhibitions of frustration be reduced in the classroom?

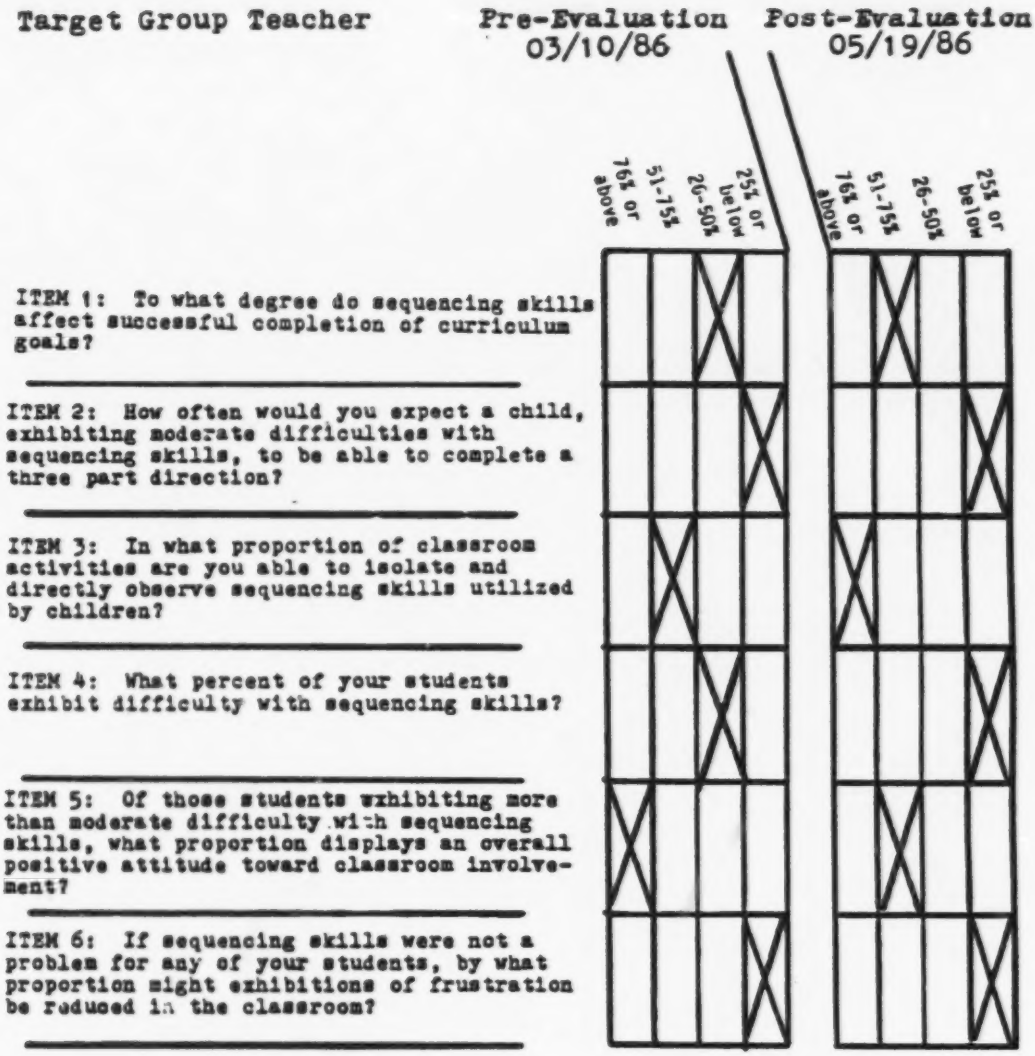
Control pre-evaluation comments:

To Item 5 - "I think that this percentage is higher in kdg than it would be at other year levels because we make such an effort at this level to help the child feel successful, and to insure that he does not feel inadequate if he has some learning problem.

Control post-evaluation comments:

General - "My responses to some of these questions have changed since the previous checklist because this time of year my goals and expectations for the children have changed. They are expected to work more independently with less repitition and individual help (3 & 4). As the year progresses these deficiencies are more apparent (3 & 4). As the children mature and have more school experiences, they become more aware of their own problems and exhibit a greater sense of failure & frustration."

Target Group Teacher


Pre-Evaluation
03/10/86
Post-Evaluation
05/19/86
76% or above
51-75%
26-50%
25% or below
76% or above
51-75%
26-50%
25% or below
ITEM 1: To what degree do sequencing skills affect successful completion of curriculum goals?
ITEM 2: How often would you expect a child, exhibiting moderate difficulties with sequencing skills, to be able to complete a three part direction?
ITEM 3: In what proportion of classroom activities are you able to isolate and directly observe sequencing skills utilized by children?
ITEM 4: What percent of your students exhibit difficulty with sequencing skills?
ITEM 5: Of those students exhibiting more than moderate difficulty with sequencing skills, what proportion displays an overall positive attitude toward classroom involvement?
ITEM 6: If sequencing skills were not a problem for any of your students, by what proportion might exhibitions of frustration be reduced in the classroom?

Target pre-evaluation comments:

To Item 1 - "In Kindergarten 26-50%, but I think as as the child progresses to other grades sequencing skills ould affect success at a much higher degree.

Target post-evaluation comments:

To Item 1 - "This has changed because the work is more difficult and the children are expected to work with less supervision."

To Item 3 - "See No. 1."

To Item 4 - "A smaller percentage are having difficulty at this time because the children are more aware of what is expected of them and because they have had concentrated tarining in this area through Mrs. Brandt's program."

To Item 5 - "Fewer have a positive attitude because by this time more is expected of them and they are aware of their deficiencies."

General - "My observation of the children's activities during Mrs Brandt's class indicate progress in auditory memory sequencing skills. In the regular classroom activities, I have seen improvement in their ability to listen and follow oral directions. The children's comments, such as 'Do we get to go to Mrs. Brandt's room today?', 'Can't we go anymore?' indicated enthusiasm for the program. They looked forward to going each day and were sorry to see it end."

APPENDIX C

Response Sheet

G-F-W, "Auditory Sequencing Test"

Test 3 — Memory for Sequence

TEST SECTION

Test Item	Correct Responses	Score (1 or 0)
1	First: key	
	Pair: key → pig	
	Last: pig	
2	First: chair	
	Pair: chair → eat	
	Last: eat	
3	First: face	
	Pairs: face → eye	
	eye → dead	
	Last: dead	
4	First: chip	
	Pairs: chip → wine	
	wine → sang	
	Last: sang	
	* Items 1-4 Number Correct	
5	First: run	
	Pairs: run → fat	
	fat → me	
	me → bead	
	Last: bead	
6	First: sink	
	Pairs: sink → juice	
	juice → shoe	
	shoe → mail	
	Last: mail	
7	First: lawn	
	Pairs: lawn → rake	
	rake → wing	
	wing → cat	
	cat → bag	
	Last: bag	
8	First: face	
	Pairs: face → pig	
	pig → chair	
	chair → eat	
	eat → key	
	Last: key	
	* Items 1-8 Number Correct	
9	First: eye	
	Pairs: eye → sang	
	sang → run	
	run → wine	
	wine → chip	
	chip → dead	
	Last: dead	
10	First: bead	
	Pairs: bead → shoe	
	shoe → fat	
	fat → sink	
	sink → juice	
	juice → me	
	Last: me	
	* Items 1-10 Number Correct	
11	First: cat	
	Pairs: cat → rake	
	rake → bag	
	bag → lawn	
	lawn → wing	
	wing → mail	
	mail → key	
	Last: key	
12	First: chair	
	Pairs: chair → chip	
	chip → pig	
	pig → eye	
	eye → eat	
	eat → dead	
	dead → face	
	Last: face	
13	First: wine	
	Pairs: wine → me	
	me → sang	
	sang → bead	
	bead → run	
	run → sink	
	sink → fat	
	fat → juice	
	Last: juice	
14	First: shoe	
	Pairs: shoe → wing	
	wing → mail	
	mail → bag	
	bag → lawn	
	lawn → cat	
	cat → rake	
	rake → key	
	Last: key	

Test 3 — SEQUENCE NUMBER CORRECT ____

APPENDIX D

INSTRUCTIONAL OBJECTIVES CHECKLIST

KINDERGARTEN CONTROL GROUP

Week of:

STUDENT'S NAME	ECHO CLAP SIMPLE RHYTHMIC PATTERNS	CLAP OR PLAY MELODIC RHYTHMS WHILE SINGING	SING FOLK AND COMPOSED SONGS FROM MEMORY	PLAY RHYTHM INSTRUMENTS IN SEQUENTIAL ORDER	LEARN FINGER PLAYS AND HAND JIVES	ECHO CLAP EXTENDED RHYTHM PATTERNS	PLACE AUDITORY INFORMATION IN SEQUENCE	IMMITATE BODY MOVEMENT SEQUENCES IN RHYTHM
1.								
2.								
3.								
4.								
5.								
6.								
7.								
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16.								
17.								
18.								
19.								
20.								

INSTRUCTIONAL OBJECTIVES CHECKLIST

KINDERGARTEN TARGET GROUP

Week of:

STUDENT'S NAME	ECHO CLAP SIMPLE RHYTHMIC PATTERNS	CLAP OR PLAY MELODIC RHYTHMS WHILE SINGING	SING FOLK AND COMPOSED SONGS FROM MEMORY	PLAY RHYTHM INSTRUMENTS IN SEQUENTIAL ORDER	LEARN PLAYS AND FINGER PLAYS	ECHO CLAP EXTENDED RHYTHM PATTERNS	PLACE AUDITORY INFORMATION IN SEQUENCE	IMITATE MOVEMENT IN RHYTHM	RECALL SEQUENCES
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
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11.									
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13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									

APPENDIX E

Materials Lists

Materials for Rhythm Experiences

Andress, B., & Boardman, E. (1984). The music book - grade one. New York: Holt, Rinehart, Winston.
"Rhythm names" p. 19.
"Stick writing" p. 21.

Fisher, W. R., McCall, A., Sur, W. R., & Tolbert, M. R. (1967). This is music. Boston: Allyn and Bacon.
"Wood patterns/clapping names" p. 17.

Lewis, A.G. (1977). Listen, look and sing (Vol. 1). Morristown, NJ: Silver Burdett.
"See my little ducklins" p. 6.
"The sleeping princess" p. 12.
"Are you sleeping?" p. 16.

Rhythm Instruments

maracas	triangle
rhythm sticks	wood block
sand paper blocks	xylophone
drum	tambourine

Phonograph Records

"Clap, snap and tap" by Ambrose Brazelton. Freeport, NY: Educational Activities.

"Fun activities for fine motor skills" (1973). Long Branch, NJ: Kimbo Educational.

Materials for Singing Experiences

Andress, B., & Boardman, E. (1984). The music book - grade one. New York: Holt, Rinehart, Winston.
"Eency, weency spider" p. 119.

Andress, B., & Boardman, E. (1984). The music book - kindergarten. New York: Holt, Rinehart, Winston.
"Little, jack horner" p. 14.
"Pease, porridge hot" p. 28.
"The trees bend" p. 56.

Aubin, N., Crook, E., Hayden, E., & Walker, D. S. (1985). Silver Burdett music centennial edition - k. Morristown, NJ: Silver Burdett.
"Farmer in the dell" p. 3.
"Teddy bear" p. 7.
"Rig-a-jig-jig" p. 11
"Old Macdonald" p. 13.
"Looby loo" p. 14.
"Ten little Indians" p. 30.
"Hey liley, liley lo" p. 99.
"The old gray cat" p. 118.

Aubin, N., Crook, E., Hayden, E., & Walker, D. S. (1985). Silver Burdett music centennial edition - 1. Morristown, NJ: Silver Burdett.
"Old brass wagon" p. 31.
"This old man" p. 54.
"If you're happy" p. 217.

Berg, R. C., Choate, R., Kjelson, L., Peterson, G., & Troth, E. (1980). Beginning music. New York: American Book.
"Clap your hands" p. 29.
"Bingo" p. 134.
"One two, buckle my shoe" p. 137.

Berg, R. C., Choate, R., Kjelson, L., Peterson, G., & Troth, E. (1980). Music for early childhood. New York: American Book.
"Twinkle, twinkle little star" p. 34.

Boardman, E., & Landis, B. (1966). Exploring music 1. New York: Holt, Rinehart, Winston.
"Jimmy crack corn" p. 13.
"Little white duck" p. 16.
"Little cabin in the wood" p. 23.
"Old king cole" p. 36.

Crook, E., Landeck, B., Luening, O., & Youngberg, H. C. (1964). Making music your own- book 1. Morristown, NJ: Silver Burdett.
"Hey betty martin" p. 10.
"Three blue pigeons" p. 35.
"I bought me a cat" p. 36.
"The angel band" p. 58.

Ehret, W., Hermann, E.J., Renna, A.A., Snyder, A.M. & Wilson, H.R. (1966). Growing with music - book 1. Englewood Cliffs, NJ: Prentice Hall.
"Mulberry bush" p. 35.
"Do a pretty motion" p. 38.

Hilyard, I., & Jaye, M.T. (1966). Making music your own- book k. Morristown, NJ: Silver Burdett.
"Hello, everybody" p. 4.
"I had a little overcoat" p. 66.
"Busy" p. 129.
"John the rabbit" p. 150.

Marsh, M.A., Rinehart, C., & Savage, E. (1980). The spectrum of music. New York: Macmillan.
"My little soul's gonna shine" p.5.
"Hickory, dickory dock" P. 23.
"If you're happy and you know it" p. 47.
"My head and my shoulders" p. 97.

Miller, M. & Zajan, P. (1955). Finger play. New York: G. Schirmer.
"She'll be coming 'round the mountain" p. 39.

Phonograph Records

"One elephant, deux elephants" (1978). Ontario, Canada: Elephant Records.

"Singable songs for the very young" by Raffi (1974). Atlanta, GA: Educational Record Center.

"Smorgasbord" (1979). Ontario, Canada: Elephant Records.

"You'll sing a song and I'll sing a song" by Ella Jenkins (1966). New York: Folkway Records.

Materials for Listening Experiences

Andress, B., & Boardman, E. (1984). The music book - kindergarten. New York: Holt, Rinehart, Winston. "The trees bend" p. 56.

Phonograph Records

"Beginning music" (1980). New York: American Book.

"Music for early childhood" (1980). New York: American Book.

Materials for Movement and Dance Experiences

Phonograph Records

"Do-si-do" (1973). New York: Wonderland Records.

"Fun activities for perceptual motor skills" (1976). Long Branch, NJ: Kimbo Educational.

"Movin'" by Hap Palmer (1973). Freeport, NY: Educational Activities.

"The hokey pokey" Oklahoma City, OK: Melody House.

APPENDIX F

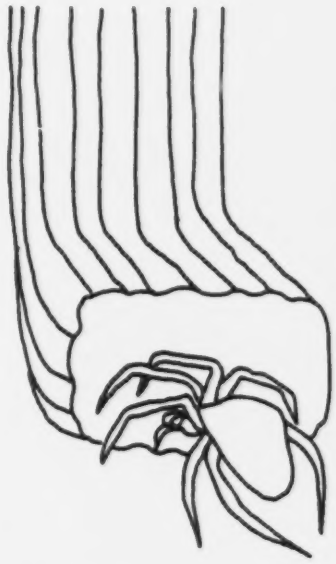
Visual Sequence Activity Sheets

NAME _____ DATE _____ ACTIVITIES 1

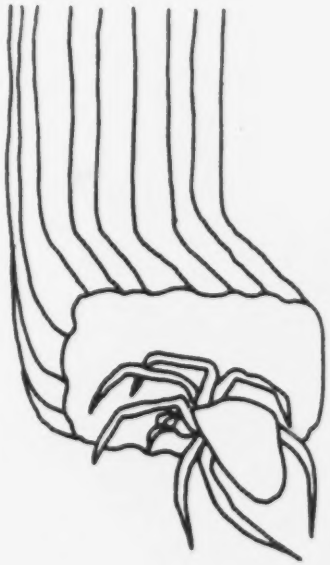
Eency, Weency Spider

1.

2.



3.



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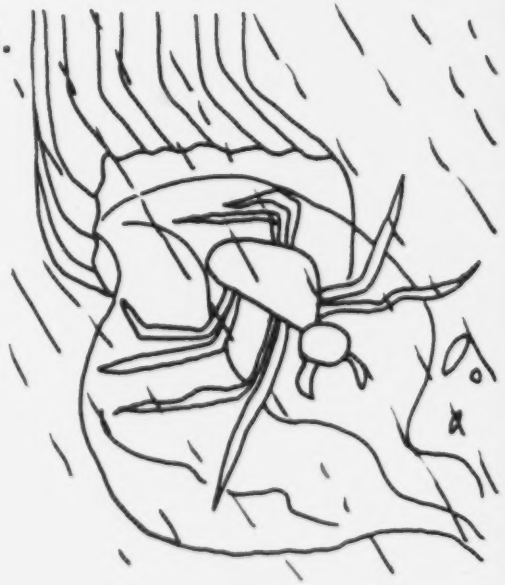

To the teacher: After the students sing the song, ask them to color the pictures, cut them out, and put them in the right order

Use with "Eency, Weency Spider," page 119

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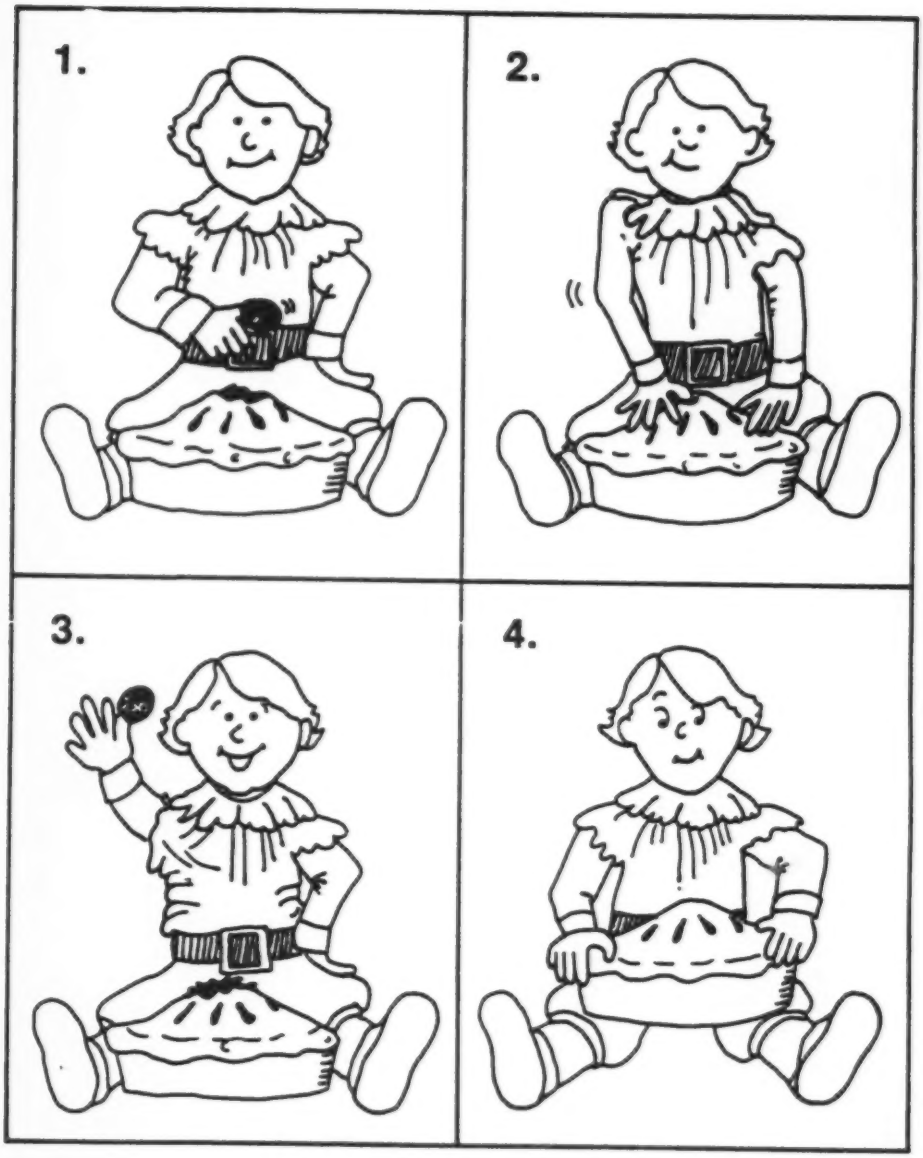
NAME _____ DATE _____ ACTIVITIES K

Put the Pictures in Order



To the teacher: After a review of "Little Jack Horner" on page 14, have the students cut out the pictures and place them in story sequence.

Use with page 14, "Little Jack Horner"

3 A

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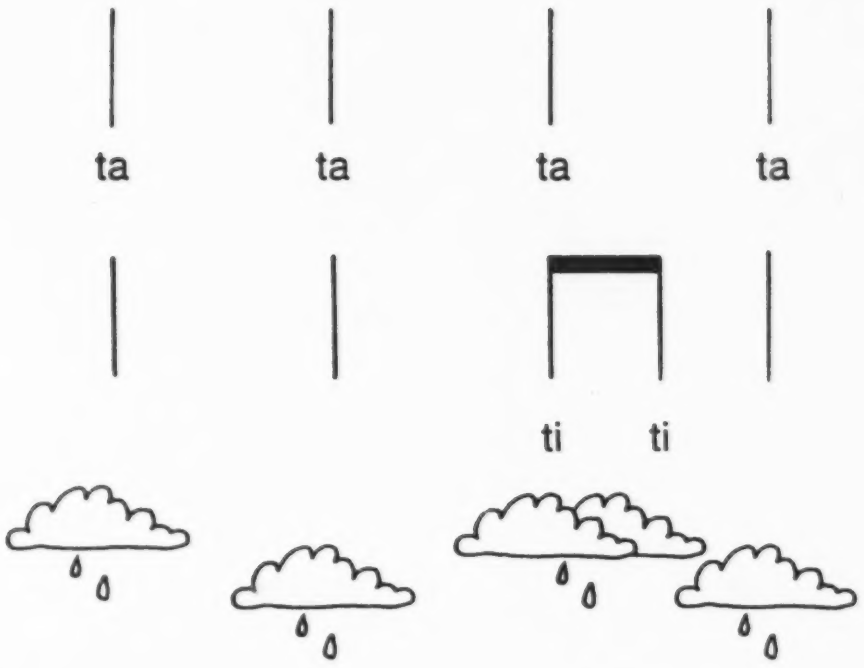
NAME _____ DATE _____ KODÁLY 1

Rhythm Names



Draw the rhythm signs.

Rain, rain, go a - way,

Trot, trot, po - ny trot,

19K

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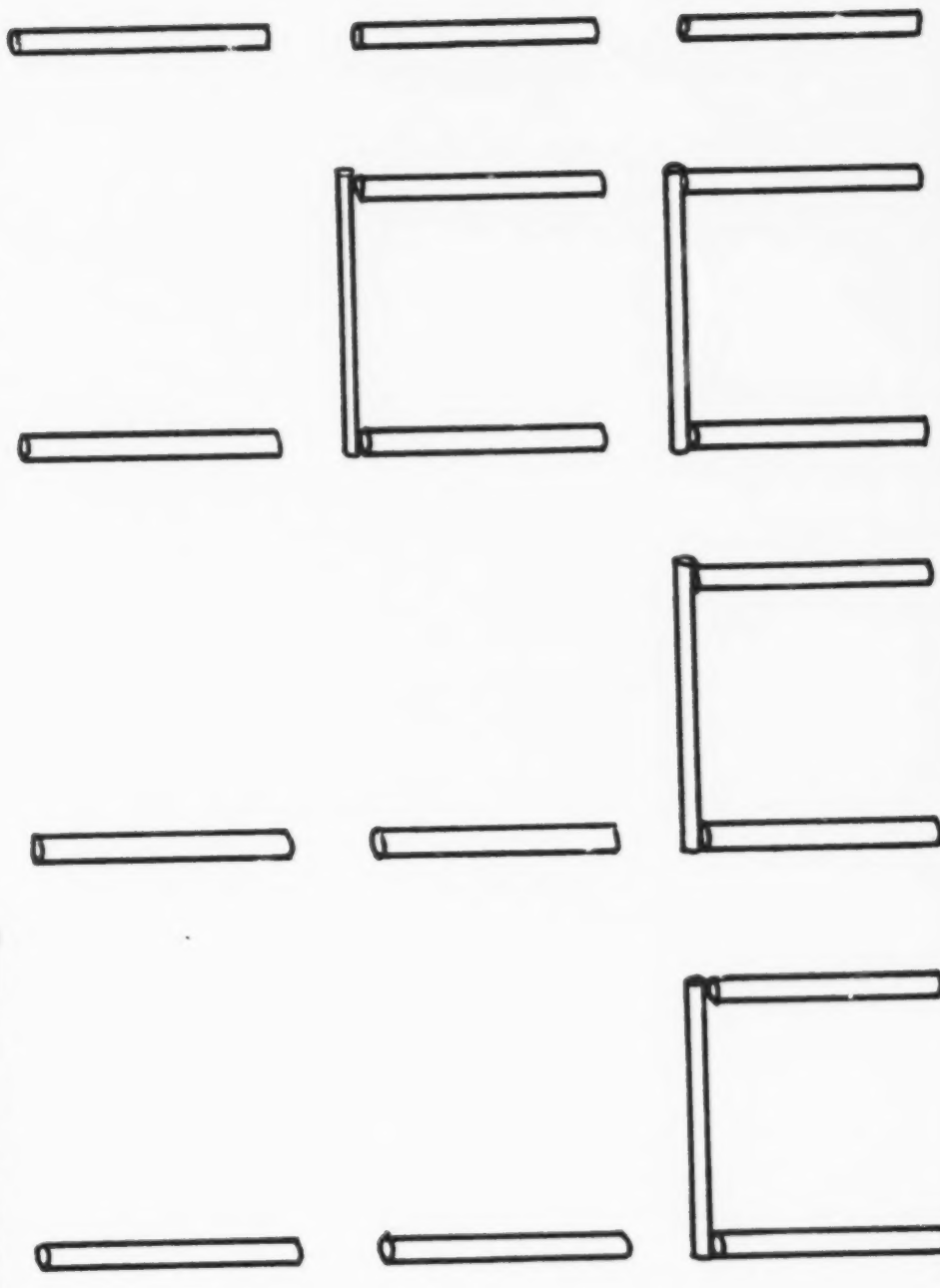
NAME _____ DATE _____

KODÁLY 1



Stick Writing

21K

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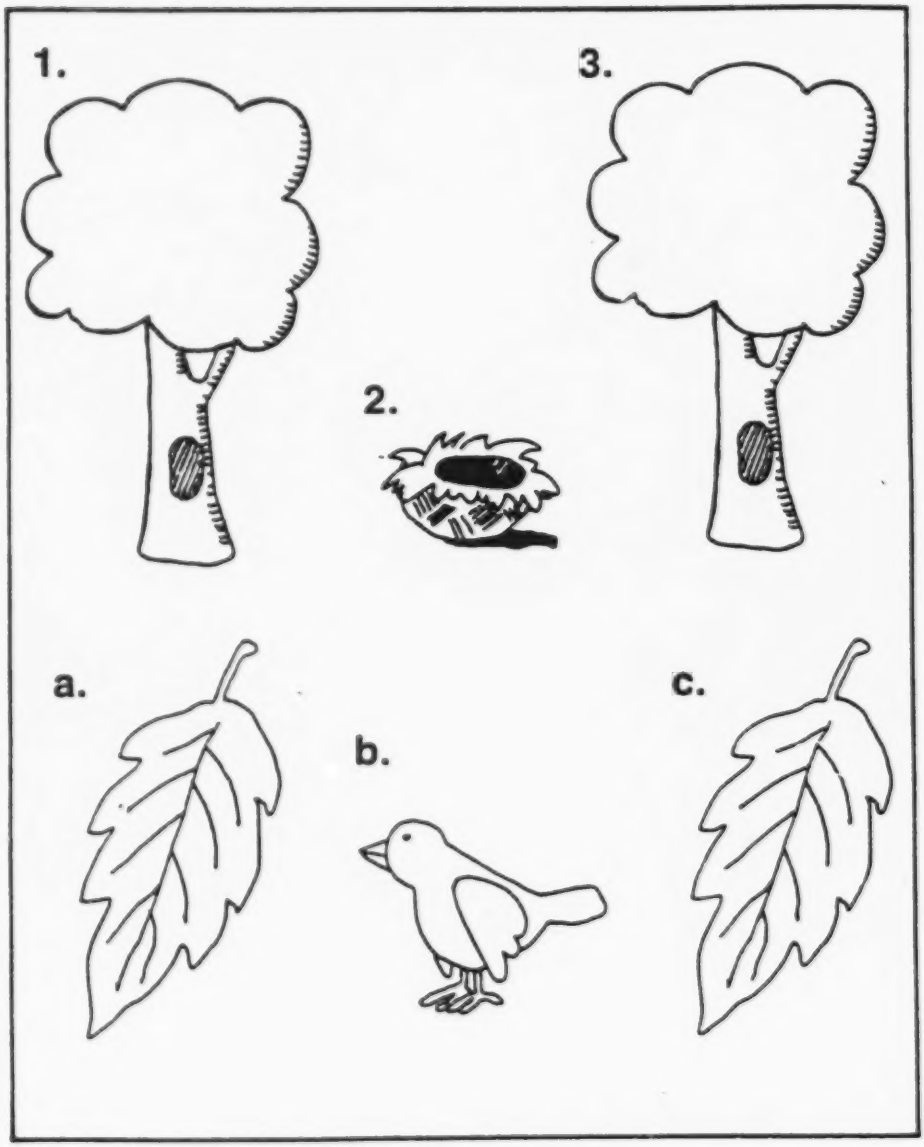
NAME _____ DATE _____ ACTIVITIES K

Finding Repeated Sections



To the teacher: Have the students color the pictures and cut out the bird and leaves. As they listen to the song, match the cut out figures with the objects which represent the structure of the song – ABA.

Use with page 56, "The Trees Bend"

A 12

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APPENDIX G

Pre-/Posttest Data

Test Scores on the "Auditory Memory Test 3 - Memory for Sequencing," G-F-W Auditory Skills Test Battery:

CONTROL (n = 19)			TARGET (n = 15)		
Pretest	Posttest		Pretest	Posttest	
X	Y	D	X	Y	D
54	43	11-	48	58	10+
53	53	0	41	49	8+
46	44	2-	39	44	5+
46	47	1+	37	62	25+
43	36	7-	35	44	9+
42	57	15+	34	45	11+
42	52	10+	34	53	19+
38	44	6+	33	35	2+
36	32	4-	33	50	17+
36	46	10+	32	46	14+
35	32	3-	31	49	18+
33	40	7+	30	37	7+
31	31	0	22	31	9+
31	28	3-	22	29	7+
31	33	2+	21	40	19+
30	35	5+			
26	44	18+			
22	33	11+			
19	25	6+			
694	755	61+	492	672	180+

$\overline{X} = \frac{\Sigma X}{n} = 36.53$

$\overline{Y} = \frac{\Sigma Y}{n} = 39.74$

$\overline{D} = \frac{\Sigma D}{n} = 3.21$

$\Sigma d^2 = \Sigma D^2 - \frac{(\Sigma D)^2}{n} = 1033.16$

$t = \frac{\overline{D}}{\sqrt{\frac{\Sigma d^2}{n(n-1)}}} = 1.85$

$\overline{X} = \frac{\Sigma X}{n} = 32.80$

$\overline{Y} = \frac{\Sigma Y}{n} = 44.80$

$\overline{D} = \frac{\Sigma D}{n} = 12.00$

$\Sigma d^2 = \Sigma D^2 - \frac{(\Sigma D)^2}{n} = 570.00$

$t = \frac{\overline{D}}{\sqrt{\frac{\Sigma d^2}{n(n-1)}}} = 7.28$